

### Claims

What is claimed is:

1. An axial piston pump barrel comprising:  
a ring shaped collection cavity disposed in said barrel, and a central bore disposed in said barrel and being fluidly isolated from said ring shaped collection cavity, and said barrel being cast from a metallic material.
2. The barrel of claim 1 wherein said casting defines a plurality of piston bores that open on one end to said ring shaped collection cavity.
3. The barrel of claim 2 including a check valve attached to said casting between each of said plurality of piston bores and said ring shaped collection cavity.
4. The barrel of claim 3 wherein each said check valve is threadably attached to said casting.
5. The barrel of claim 2 wherein said casting includes a conical valve seat positioned between each of said plurality of piston bores and said ring shaped cavity.
6. The barrel of claim 5 including a plurality of check valves that are each attached to said casting in contact with one of said conical valve seats.
7. A pump comprising:

a housing:

a barrel mounted in said housing, and including a casting that defines a ring shaped collection cavity fluidly isolated from a central bore, and a plurality of parallel piston bores that open to said ring shaped collection cavity;

a piston slidably received in each of said piston bores; and

a drive plate having a slanted drive surface rotatably mounted in said housing and being operably coupled to each said piston.

8. The pump of claim 7 wherein said barrel assembly includes a check valve attached to said casting between each of said plurality of parallel piston bores and said ring shaped collection cavity.

9. The pump of claim 8 wherein each said check valve is threadably attached to said casting.

10. The pump of claim 7 wherein said casting includes a conical valve seat positioned between each of said plurality of piston bores and said ring shaped collection cavity.

11. The pump of claim 10 including a plurality of check valves that are each attached to said casting in contact with one of said conical valve seats.

12. A method of making an axial piston pump barrel, comprising the steps of:

pouring metal around a ring shaped core to produce a casting; and  
removing the ring shaped core from the casting.

13. The method of claim 12 including a step of supporting said ring shaped core in a mold atop a plurality of pillars.

14. The method of claim 13 including a step of forming said ring shaped core to include a ring portion and a plurality of pillars extending away from said ring portion parallel to one another.

15. The method of claim 14 including a step of mating said plurality of pillars to counterpart pillar bores in a base core.

16. The method of claim 12 wherein said removing step includes a step of breaking said ring shaped core into smaller pieces.

17. The method of claim 12 wherein said casting step includes a step of casting metal around at least one central bore core.

18. The method of claim 12 including a step of attaching a plurality of check valves to the casting.

19. The method of claim 18 including a step of machining a conical valve seat for each of said plurality of check valves.

20. The method of claim 19 wherein said attaching step includes a step of positioning each of said check valves in contact with one of said conical valves seats.